

A Survey to determine the Opinions and Perceptions of Complementary Medicine by Users in Health Shops in the East Rand of Gauteng

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ABSTRACT

Objectives: Complementary Medicine is a general term used when describing interventions applied in conjunction with or as an alternative to conventional medicine. Complementary medicine can be used when addressing and treating a plethora of chronic and acute physiological and mental conditions. With its ever increasing wide-spread global popularity, more funding and expenditure has been spent on both complementary medicine practitioners and products alike. The aim of this study was to determine the opinions and perceptions about complementary medicine by users in selected health shops in the East Rand of Gauteng.

Methodology: This study was conducted by means of a survey; 300 questionnaires were available for completion at 9 different health stores in the East Rand of Gauteng, a total of 256 surveys were completed and analysed.

Results: Based on the results of this study, a typical profile of a complementary medicine user in the East Rand of Gauteng has been generated and can be described. This profile is consistent with other profiles generated from similar studies done in South Africa, as well as many international studies. Many consumers in this region are also of the opinion that complementary medicine should be included into the National Health System.

1. Introduction

Complementary medicine is a general term used when describing interventions applied in conjunction with, or as an alternative to, conventional medicine. Complementary medicine can be used when addressing and treating a plethora of chronic and acute physiological and mental conditions (Chitindingu *et al.*, 2014). With its ever increasing wide-spread global popularity, there has been a dramatic increase in public expenditure on both complementary medicine practitioners and products alike, as well as in the funding to continue its development (Peltzer, 2009). The general public have an overall positive view and attitude towards complementary medicine products and practitioners and also state that inflated costs and, in certain areas globally, the limited

access to conventional medicines, are just some of the reasons given when asked why they use complementary medicine (Hughes *et al.*, 2013).

There is a vast array of modalities that exist under the umbrella of complementary medicine, including but not limited to Homoeopathy, Naturopathy, Ayurveda and Traditional Chinese Medicine (Mann *et al.*, 2008).

Currently organisations such as the World Health Organization (WHO) and the Medicines Control Council (MCC) are employed with the task of developing a regulatory system to ensure the safety, efficacy and quality of complementary medicines that can be incorporated into healthcare systems (Saraf & Saraf, 2012).

There is limited data available on the attitudes towards and perceptions of complementary medicine in the South African market, and currently no such data is available for the East Rand of Gauteng. It is of the utmost importance that more data is collected about the public's views about complementary medicines to enable useful and corrective market education material development.

1.1 Aim

The aim of this study was to determine the opinions and perceptions about complementary medicine by users in selected health shops in the East Rand of Gauteng.

2. Methodology

The target group for this survey was complementary medicine users of both genders, aged 18 or above, who resided in the East Rand of Gauteng. It consisted of a random convenience sample of 300 participants who utilize complementary medicine products and modalities. A quantitative-descriptive design was used, and data was collected via a cross-sectional survey. The survey consisted of 300 questionnaires distributed to the nine health shops in the East Rand of Gauteng. Permission to conduct the study was requested from all the participating health shops prior to commencement of the study. At each health shop, the questionnaires were available at till points and were completed on a voluntary basis by respondents. Interested participants were given an information leaflet detailing what the study was about and what was required of them and were requested to sign a consent form if they wished to participate. The researcher identified a private setting in each health shop where the questionnaires were completed. The questionnaire took approximately 3 to 5 minutes to complete. After completion, the participant submitted the questionnaire to the researcher, who then placed the questionnaire in an envelope and sealed it, after which it was stored in a locked cupboard until it was statistically analysed.

There was no anticipated risk to being involved in this study and the participant had the right to freedom of expression and the choice to withdraw consent from the study up to the point where the questionnaire was placed in an envelope and sealed. Ethical clearance was granted by the Higher Degrees Committee and Research Ethics Committee before the survey was conducted.

3. Results

Once the study was commenced, the researcher spent a minimum of 5 days at each of the selected health shops to recruit volunteers to complete the questionnaire. A combined total of 300 questionnaires were distributed to 9 health shops in the East Rand area, of which 256 questionnaires were completed and statistically analysed between February 2017 and November 2017. The response rate was therefore 85%.

A total of 86 males (33.4%) and 170 females (66.6%) participated in this study. The majority of the participants were of Caucasian descent, aged between 26 and 45 years old, and had a total household income between R10 001 and R20 000. A total of 41.8% of participants stated that they do take prescription or OTC medication daily.

When asked which complementary medicines the participants had tried before in the past, 7.8% of participants reported having tried Ayurveda; 29.4% had tried Vitamins / Minerals / Supplements; 20.2% had tried Herbal products; 14.4% had tried Homoeopathy; 10.5% had tried Dietary changes; 2.8% had tried Aromatherapy; 6.2% had tried Chinese medicine and 8.2% had tried Unani-Tibb. Thirty-nine percent of participants further stated that they use Vitamins / Minerals / Supplements regularly.

Participants were asked where they gained their knowledge of complementary medicine from, 25.5% of participants reported seeking advice from consultants at health shops, 18.8% of participants got information from their friends or family members, and 17.8% of participants reported using the internet.

The final question of the survey asked participants if they thought complementary medicine should be included in the National Health System or not. Results showed that 95.7% of participants would like for complementary medicine to be included into the National Health System, whilst 4.3% of participants did not.

4. Discussion

The responses to the questions on gender, age, race, field of occupation, highest level of education and monthly household income has outlined a 'typical' complementary medicine user in the East Rand of Gauteng as a white female, aged between 26 and 45, who works in the health and fitness

industry, has some tertiary education, typically a diploma or Bachelor's degree, and who has a monthly household income of between R10 000 and R20 000 per month. This analysis is in accordance with the results found by Du Plessis (2013) in Cape Town, South Africa as well as other international studies such as that by Frass *et al.* (2012).

Results of this study show that majority of participants (73.8%) experience only one or a few episodes of ill health per year, and a further 15.2% of participants stated that they had perfect health. These results are in accordance with those of Hung *et al.* (2015) and Snyman (2014), who also found little correlation between the use of complementary medicine and a poorer health status.

Most participants (27.4%) chose to use complementary medicine as a form of preventative healthcare. This data suggests that more of this population are focusing on preventative rather than curative measures, and is in accordance with the results of similar studies done by Du Plessis (2013) and Snyman (2014). The trend for preventative measures has continued through the years that complementary medicine has evolved. Oldendick *et al.* (2000) reported that approximately 47% of complementary medicine users do so to prevent or maintain health, rather than to treat a specific condition.

The majority of respondents (57.5%) reported making purchases for themselves, whilst 29.8% stated that they were buying products for their families and 10.9% were buying for their partners.

With regards to which complementary medicine products had been tried by participants before, vitamins / minerals / supplements was most chosen (29.4%), followed by herbal products (20.2%) and homoeopathy (14.4%). Vitamins / minerals / supplements were used regularly by 39% of participants, and was found effective by 33% of participants. Herbal products were used regularly by 19.7%, and were found effective by 20.1% of participants. Homoeopathy was used regularly by 13.7% and found effective by 15.8% of participants. These results may indicate that if participants found a product effective, that they would use it regularly, and if so, this suggestion would be congruent with statements made by Du Plessis (2013) and Snyman (2014). Other studies done internationally found similar results as well. A study done in the United States of America found that at least two thirds of Americans use vitamins, and the top reason for its use was to maintain overall health and wellbeing (Dickinson *et al.* 2015).

Most users (69.3%) of complementary medicine products spend between R200 – R1000 on products per month. This finding is in line with that of Du Plessis (2013) who also stated that the typical complementary medicine user in Cape Town spends approximately the same amount. However, it is important to understand that this is the suitable amount for the demographic who completed this survey, typically being a white, educated female who falls into a higher income

bracket than most of the population. Majority of the South African population don't have that kind of disposable income. Lustig (2016) reported that in South Africa, health spending declines as income declines.

More than one quarter (25.5%) of participants stated that they acquire their knowledge about complementary medicine and its uses from a consultant at a health shop. This result puts emphasis on the need for health shops to have staff that are either qualified or well educated in the complementary medicine field. Collectively, only 13.4% of participants said that they acquired their knowledge on complementary medicine products from their GP's and pharmacists. This may indicate that consumers are reluctant to divulge their interest on complementary medicine products to conventional health care professions. A similar finding was noted by Evans *et al* (2007), who analysed the decisions to seek complementary medicines by male cancer patients. It has also been noted in other international studies that often patients feel uncomfortable discussing their complementary medicine use with their physician for fear of disapproval. Other patients also stated that one of the reasons why they did not discuss the topic of complementary medicine use is because their physician never asked them about it. This may lead to serious health implications as many consumers don't realise the potential for supplement-drug interactions, which may be harmful to their health (Ventola, 2010).

When participants were asked to select one or more statements describing why they use complementary medicine, 17.2% stated that they use it as a disease prevention mechanism. Other popular responses included that it was recommended to them (14.5%), that they used it to treat a specific condition (12.5%) and that they felt that there were fewer side effects (12.2%). Overall, the general consensus of users of complementary medicine in the East Rand of Gauteng is one a great satisfaction regarding their experiences so far. These results are in accordance with statements recorded in a study by Onyiaput *et al.* (2011) who found that the Nigerian population use complementary medicine to promote and maintain health and because they perceive complementary medicine to be more natural and have fewer side effects.

Keeping in line with the above results, it becomes clear why 95.7% of participants said that they think complementary medicine should be included into the National Health System. This result is on par to that of Van Staden & Joubert (2014) from a similar study done in Bloemfontein, South Africa, who found that 81.9% of participants wanted complementary medicine to be included in the National Health System. Majority of these respondents also stated that they would like their physician to be more receptive to the use of complementary medicines, and added that they felt their physicians should be more knowledgeable about complementary medicine modalities.

This study has helped ascertain the typical complementary medicine user profile and their experiences of complementary medicines. It has also assisted with awareness of the current complementary medicine climate in the East Rand of Gauteng, which could aid further complementary medicine developmental strategies.

Conflicts of Interest: None

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References

- Adams, M., and Jewell, A.P. (2007). The use of complementary and alternative medicine by cancer patients. *International Seminars in Surgical Oncology*, 4(10). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1872026/> [Accessed 04 December 2017].
- AlBedah, A., Khalil, M., Elolemy, A., Al Mudaiheem, A., Al Eidi, S., Al-Yahia, O., Al-Gabbany, S., Henary, B.Y. (2013). The use of and out-of-pocket spending on complementary and alternative medicine in Qassim province, Saudi Arabia. *Annals of Saudi Medicine*, 33(3), pp 282-289. Available from: https://www.researchgate.net/profile/Mohamed_Khalil32/publication/241693660_The_use_of_a_nd_out-of-pocket_spending_on_complementary_and_alternative_medicine_in_Qassim_province_Saudi_Arabia/links/543b7dba0cf204cab1db0130.pdf [Accessed 12 August 2017].
- Allied Health Professions Council of South Africa (AHPCSA) (2017). Available from: <http://ahpcsa.co.za/practitioners/> [Accessed 04 December 2017].
- Allied Health Professions Council of South Africa (AHPCSA). (2014). Submission to the competition commission regarding the market inquiry into the private healthcare sector. AHPCSA website. Available from: http://www.compcom.co.za/wp-content/uploads/2016/03/ahpcsa_competition_commission.pdf [Accessed 16 August 2017].
- Alternative Medicine Foundation. (2010). Chinese Traditional Medicine, an alternative and complementary medicine resource guide [Internet]. Alternative Medicine Foundation website. Available from: <http://www.amfoundation.org/tcm.htm#BASIC-PRINCIPLES> [Accessed 16 August 2017].
- AromaSA. (2016). About Aromatherapy [Internet]. AromaSA website. Available from: <http://aromasa.org.za/about-aromatherapy/> [Accessed 16 August 2016].
- Barnes, P.M. and Bloom, B. (2008). Complementary and alternative medicine use among adults and children: United States, 2007. *National Health Statistics Reports*, 12. Available from: <http://www.cdc.gov/nchs/data/nhsr/nhsr012.pdf> [Accessed 20 May 2016].
- Beck, F., Richard, J.B., Nguyen-Thanh, V., Montagni, I., Parizot, I., Renahy, E. (2014). Use of the internet as a health information resource among french young adults: results from a nationally representative survey. *Journal of Medical Internet Research*, 16(5). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4051740/> [Accessed 04 December 2017].

Bone, K. and Mills, S. (2013). *Principles and Practice of Phytotherapy*, 2nd Edn, Churchill Livingstone Title, USA.

Braun, L.A., Tiralongo, E., Wilkonson, J.M., Spitzer, O., Bailey, M., Poole, S., Dooley, M. (2010). Perceptions, use and attitudes of pharmacy customers on complementary medicines and pharmacy practice. *BMC Complementary & Alternative Medicine* [Internet], 10 (38). Available from: <http://www.biomedcentral.com/1472-6882/10/38> [Accessed on 24 March 2016].

Cheung, F. (2011). TCM: Made in China. *Nature: International Weekly Journal of Science*, 480, pp S82-S83. Available from: http://www.nature.com/nature/journal/v480/n7378_suppl/full/480S82a.html?foxtrotcallback=true [Accessed 12 August 2017].

Chitindingu, E., George, G., Gow, J. (2014). A review of the integration of traditional, complementary and alternative medicine into the curriculum of South African medical schools. *BMC Medical Education*, 14(40). Available from: <http://bmcmmeduc.biomedcentral.com/articles/10.1186/1472-6920-14-40> [Accessed on 24 March 2016].

Clarke, T.C., Black, L.I., Stussman, B.J., Barnes, P.M., Nahin, R.L. (2015). Trends in the use of complementary health approaches among adults: United States, 2002–2012. *National Health Statistics Report*, 79. Available from: <https://www.cdc.gov/nchs/data/nhsr/nhsr079.pdf> [Accessed 20 July 2017].

Da Silva-Esclana, N. (2012). *The Homeopathic market: Profiling the use of Homeopathic remedies at Early Childhood Development Centres in the Pretoria East Region*, unpublished Master's Dissertation, University of South Africa, pp 77-99. Available from: http://uir.unisa.ac.za/bitstream/handle/10500/8568/Dissertation_Da%20Silva_N.pdf.pdf?sequence=1 [Accessed 16 August 2017].

De Wet, H., Ngubane, S.C. (2014). Traditional herbal remedies used by women in a rural community in Northern Maputaland (South Africa) for the treatment of gynaecology and obstetric Complaints. *South African Journal of Botany*, 94, pp 129-139. Available from: https://ac.els-cdn.com/S0254629914001227/1-s2.0-S0254629914001227-main.pdf?_tid=1c4623a0-d840-11e7-8d07-00000aabb0f02&acdnat=1512315732_b89cfc9c5291ba8787c7ad21f3df5baa [Accessed 03 December 2017].

Dickinson, A., MacKay, D., Wong, A. (2015). Consumer attitudes about the role of multivitamins and other dietary supplements: a report of a survey. *Nutrition Journal*, 14(66). Available from:

<https://nutritionj.biomedcentral.com/articles/10.1186/s12937-015-0053-9> [Accessed 04 December 2017].

Du Plessis, S. (2013). *A Survey to Determine the Attitudes Towards Complementary and Alternative Medicine by Users in Cape Town*, unpublished Masters Dissertation, University of Johannesburg, South Africa, pp 3-62. Available from: <http://ujdigispace.uj.ac.za/bitstream/handle/10210/8322/du%20Plessis.pdf?sequence=1> [Accessed 12 August 2016].

Eardley, S., Bishop, F., Prescott, P., Cardini, F., Brinkhous, B., Santos-Rey, K., Vas, J., Von Ammon, K., Hegyi, G., Dragan, S., Uehleke, B., Fønnebø, V., Lewith, G. (2012). A systematic literature review of complementary and alternative medicine prevalence in EU. *Forschende Komplementärmedizin / Research in Complementary Medicine*, 19(2), pp 18-28. Available from: https://www.researchgate.net/publication/259648213_A_Systematic_Literature_Review_of_Complementary_and_Alternative_Medicine_Prevalence_in_EU?enrichId=rgreq-d4bd9d61b2edb6f478bc6954ebcc20ca-XXX [Accessed 12 August 2017].

Ellis, A., Abrams, M., Abrams, L. (2009). *Personality Theories: Critical Perspectives*, SAGE, California.

Epstein, S.R. and Bell, I.R. (2016). Homeopathy in the treatment of gastrointestinal conditions in animals: Part 1 – What is Homeopathy? *Journal of the American Holistic Veterinary Medical Association*, 43, pp 16-26. Available from: <https://pdfs.semanticscholar.org/4f97/5d85d74e4de1f4cbd5cecc4a6e213a159f22.pdf> [Accessed 27 November 2017].

Evans, M., Shaw, A., Thompson, E.A., Falk, S., Turton, P., Thompson, T., Sharp, D. (2007). Decisions to use complementary and alternative medicine (CAM) by male cancer patients: information-seeking roles and types of evidence used. *BMC Complementary and Alternative Medicine*, 7(25). Available from: <https://bmccomplementaltermmed.biomedcentral.com/articles/10.1186/1472-6882-7-25> [Accessed 27 November 2017].

Fourie, L., Oosthuizen, F., du Toit, K. (2017). Complementary medicines: When regulation results in revolution. *South African Medical Journal*, 107(6). Available from: http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0256-95742017000600010&lng=en&nrm=iso [Accessed 16 August 2017].

Forum on China-Africa Cooperation (FOCAC). (2012). Traditional Chinese Medicine and Pharmacy (TCM) in Africa: Opportunities and Challenges [Internet]. FOCAC *website*. Available from: <http://www.focac.org/eng/zxxx/t933043.htm> [Accessed 16 August 2017].

Frass, M., Strassl, R.P., Friehs, H., Müllner, M., Kundi, M., Kaye, A.D. (2012). Use and acceptance of complementary and alternative medicine among the general population and medical personnel: A systematic review. *The Ochsner Journal*, 12(1): 45-56. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3307506/> [Accessed 20 July 2017].

Gouws, J.C. (2016). Complementary medicine – discipline-specific safety and efficacy. Registration of medicines, 5-6. Available from: http://www.mccza.com/documents/8b57b09c7.01_CM_S_E_DS_Jun16_v3.pdf [Accessed 04 April 2017].

Harris, P.E., Cooper, K.L., Relton, C., Thomas, K.J. (2012). Prevalence of complementary and alternative medicine (CAM) use by the general population: A systematic review and update. *The International Journal of Clinical Practice*, 66: 924-939. Available from: <http://onlinelibrary.wiley.com/doi/10.1111/j.1742-1241.2012.02945.x/epdf> [Accessed 18 May 2016].

Hela, M. (2013). Roadmap for registration of complementary medicine. *Registration of Medicines*, 4-8. Available from: http://www.mccza.com/documents/66d8cd937.02_Roadmap_for_CAMs_Dec13_v1.pdf [Accessed 19 July 2016].

Homoeopathic Association of South Africa (HSA). (2016). Homoeopathy Explained: Education and Training [Internet]. HSA *website*. Available from: <https://www.homeopathy.org.za/homeopathy-explained> [Accessed 15 August 2017].

Hughes, G.D., Aboyade, O.M., Clarke, B.L., Puoane, T.R. (2013). The Prevalence of traditional herbal medicine use among hypertensives living in South African communities. *BMC Complementary and Alternative Medicine*, 13(38): 1-8. Available from: <http://www.biomedcentral.com/1472-6882/13/38> [Accessed 17 May 2016].

Hung, A., Kang, N., Bollom, A., Wolf, J.L., Lembo, A. (2015). Complementary and alternative medicine use is prevalent among patients with gastrointestinal diseases. *Digestive Diseases and Sciences*, 60, pp 1883 – 1888. Available from: https://www.researchgate.net/profile/Adelina_Hung2/publication/270397626_Complementary_and_Alternative_Medicine_Use_Is_Prevalent_Among_Patients_with_Gastrointestinal_Diseases/li

[nks/597b48300f7e9b0469ec8c44/Complementary-and-Alternative-Medicine-Use-Is-Prevalent-Among-Patients-with-Gastrointestinal-Diseases.pdf](https://hal.archives-ouvertes.fr/hal-00599537/document) [Accessed 26 November 2017].

Hunt, K., Coelho, H., Wider, B., Perry, R., Hung, S., Terry, R., Ernst, E. (2010). Complementary and alternative medicine use in England: Results from a national survey. *International Journal of Clinical Practice*, 64(11), pp 1496 - 1509. Available from: <https://hal.archives-ouvertes.fr/hal-00599537/document> [Accessed 12 August 2017].

James, P.B. and Bah, A.J. (2014). Awareness, use, attitude and perceived need for complementary and alternative medicine (CAM) education among undergraduate pharmacy students in Sierra Leone: a descriptive cross-sectional survey. *BMC Complementary and Alternative Medicine*, 14(1), pp 1. Available from: <https://bmccomplementaltermmed.biomedcentral.com/articles/10.1186/1472-6882-14-438> [Accessed 14 August 2017].

Kristofferson, A.E., Stub, T., Salamonsen, A., Musial, F., Hamberg, K. (2014). Gender differences in prevalence and associations for use of CAM in a large population study. *BMC Complementary and Alternative Medicine*, 14(463). Available from: <https://bmccomplementaltermmed.biomedcentral.com/articles/10.1186/1472-6882-14-463> [Accessed 03 December 2017].

Kwame Ameade, E.P., Amalba, A., Helegbe, G.K., Mohammed, B.S. (2016). Medical students' knowledge and attitude towards complementary and alternative medicine – A survey in Ghana. *Journal of Traditional and Complementary Medicine*, 6(3), pp 230-236. Available from: <http://www.sciencedirect.com/science/article/pii/S2225411015000437> [Accessed 14 August 2017].

Leach, M. (2013). Profile of the complementary and alternative medicine workforce across Australia, New Zealand, Canada, United States and United Kingdom. *Complementary Therapies in Medicine*, 21, pp 364-378. Available from: https://s3.amazonaws.com/academia.edu.documents/46583889/Profile_of_the_complementary_and_alterna20160617-11067-yey8ly.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A [Accessed 12 August 2017].

Lustig, N. (2016). Inequality and fiscal redistribution in middle income countries: Brazil, Chile, Colombia, Indonesia, Mexico, Peru and South Africa. *Journal of Globalization and Development*, 7(1). Available from: <https://www.degruyter.com/view/j/jgd.2016.7.issue-1/jgd-2016-0015/jgd-2016-0015.xml> [Accessed 04 December 2017].

Macquet, T. (2007). *The Perceptions and Awareness of Homeopathy and the Homeopathic Day Clinic Amongst Students at the Durban University of Technology*, unpublished Masters Dissertation, Durban University of Technology, South Africa, pp 18-30. Available from: http://ir.dut.ac.za/bitstream/handle/10321/30/Macquet_2007.pdf?sequence=4 [Accessed 12 August 2016].

Maharaj, L. (2015). Perceptions of Professional Nurses towards Alternative Therapies in the Umgungundlovu District, South Africa, unpublished Masters Dissertation, Durban University of Technology, South Africa, pp 57-58.

Mahomed, N. (2016). Essential oils: export market opportunity. *Trade and Investment Kwazulu-Natal*, pp 1-4. Available from: http://www.exportkzn.co.za/portal/resources/pdfs/product_fact_sheets/pfs_EssentialOils_2016-05-09_0.72159300_1462875249.pdf [Accessed 16 August 2017].

Mann, T. (2008). *A Survey to Establish Perceptions of Homoeopathy Among Pharmacists and Pharmacists' Assistants in Greater Johannesburg*, unpublished Masters Dissertation, University of Johannesburg, South Africa, pp 1-11. Available from: <http://hdl.handle.net/10210/3118> [Accessed 12 August 2016].

McGranahan, G., Lewin, S., Fransen, T., Hunt, C., Kjellén, M., Pretty, J., Stephens, C., Virgin, I. (1999). Environmental change and human health in countries of Africa, the Caribbean and the Pacific. *Stockholm Environment Institute*, 1999, pp 3-10. Available from: https://www.sei-international.org/mediamanager/documents/Publications/Risk-livelihoods/environmental_change_human_health_africa.pdf [Accessed 12 August 2016].

Meyer, M. (2013). Claim that Traditional Medicines will be tested is churnalism not journalism. *Africa Check*, June 2013. Available from: <https://africacheck.org/reports/new-testing-for-traditional-medicines-the-claim-is-misleading/> [Accessed 12 August 2016].

Nahin, R.L., Barnes, P.M., Stussman, B.J. (2016). Expenditures on complementary health approaches: United States, 2012. *National Health Statistics Report*, 95. Available from: <https://www.cdc.gov/nchs/data/nhsr/nhsr095.pdf> [Accessed 20 July 2017].

National Association for Holistic Aromatherapy (NAHA). (2017). What is aromatherapy [Internet]. National Association for Holistic Aromatherapy website. Available from: <https://naha.org/explore-aromatherapy/about-aromatherapy/what-is-aromatherapy> [Accessed 03 December 2017].

National Centre for Complementary and Integrative Health (NCCIH). (2013). Ayurvedic medicine: in depth [Internet]. NCCIH website. Available from: <https://nccih.nih.gov/health/ayurveda/introduction.htm> [Accessed 16 August 2017].

Nguyen, L.T., Davis, R.B., Kaptchuk, T.J., Phillips, R.S. (2011). Use of complementary and alternative medicine and self-rated health status: results from a national survey. *Journal of General Internal Medicine*, 26(4), pp 399-404. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3055973/> [Accessed 03 December 2017].

Nkosi, V., Wichmann, J., Voyi, K. (2015). Chronic respiratory disease among the elderly in South Africa: any association with proximity to mine dumps? *Environmental Health*, 14:33. Available from: <https://ehjournal.biomedcentral.com/articles/10.1186/s12940-015-0018-7> [Accessed 18 July 2016].

Ock, S.M., Choi, J.Y., Cha, Y.S., Lee, J., Chun, M.S., Huh, C.H., Lee, S.Y., Lee, S.J. (2006). The use of complementary and alternative medicine in a general population in South Korea: Results from a national survey in 2006. *Journal of Korean Medical Science*, 24(1), pp 1-6. Available from: <https://synapse.koreamed.org/DOIx.php?id=10.3346/jkms.2009.24.1.1> [Accessed 12 August 2017].

Oke, D.A.; Bandele, E.O. (2004). Misconceptions of hypertension. *Journal of the National Medical Association*, 96(9), pp 1221-1224. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2568468/> [Accessed 15 April 2018].

Oldendick, R., Coker, A.L., Wieland, D., Raymond, J.L., Probst, J.C. (2000). Population-based survey of complementary and alternative medicine usage, patient satisfaction, and physician involvement. *Southern Medical Journal*, 93(4), pp 375 – 381. Available from: https://uknowledge.uky.edu/cgi/viewcontent.cgi?article=1142&context=crvaw_facpub [Accessed 03 December 2017].

Onyiaapat, J.E., Okoronkwo, I.L., Ogbonnaya, N.P. (2011). Complementary and alternative medicine use among adults in Enugu, Nigeria. *BMC Complementary and Alternative Medicine*, 11(19). Available from: <http://www.biomedcentral.com/1472-6882/11/19> [Accessed on 14 March 2016].

Peltzer, K. (2009). Utilization and practice of traditional/complementary/alternative medicine (TM/CAM) in South Africa. *African Journal of Traditional, Complementary and Alternative Medicines (AJTCAM)*, 6(2), pp 175–185. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2816568/> [Accessed 18 May 2016].

Peregoy, J.A., Clarke, T.C., Jones, L.I., Stussman, B.J., Nahin, R.L. (2014). Regional variation in use of complementary health approaches by U.S. adults. *NCHS Data Brief*, 148: 1-8. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4562209/> [Accessed 16 May 2016].

Posadzki, P., Lee, M.S., Moon, T.W., Choi, T.Y., Park, T.Y., Ernst, E. (2013a). Prevalence of complementary and alternative medicine (CAM) use by menopausal women: A systematic review of surveys. *Maturitas*, 75(1), pp 34-43. Available from: <http://0-www.sciencedirect.com.ujlink.uj.ac.za/science/article/pii/S0378512213000509> [Accessed 18 May 2016].

Posadzki, P., Watson, L., Alotaibi, A., Ernst, E. (2013b). Prevalence of use of complementary and alternative medicine (CAM) by patients/consumers in the UK: systematic review of surveys. *Clinical Medicine*, 13(2), pp 126-131. Available from: <http://www.clinmed.rcpjournals.org/content/13/2/126.full?related-urls=yes> [Accessed 12 August 2017].

Post Matric. (2017). Aromatherapy [Internet]. Post Matric website. Available from: <https://www.postmatric.co.za/aromatherapist/#study> [Accessed 16 August 2017].

Prinsloo, J.P. (2012). Existing Homoeopathic Scope of Practice [Internet]. HSA website. Available from: <https://www.homeopathy.org.za/wp-content/uploads/Scope-of-Practice-20052.pdf> [Accessed 16 August 2017].

Rossi, E., Picchi, M., Panozzo, M., Di Stefano, M., Baccetti, S. (2014). Integration of homeopathy and complementary medicine in the public health system in Italy: national regulation and regional experiences. *Journal of Medicine and the Person*, 13(1), pp 45 – 54. Available from: <https://link.springer.com/article/10.1007/s12682-014-0187-0> [Accessed 04 December 2017].

Saraf, A. Saraf, S. (2012). Legal regulations of complementary and alternative medicines in different countries. *Pharmacognosy Review*, 6(12): 154–160. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3459458/> [Accessed 19 July 2016].

Shumer, G., Warber, S., Motohara, S., Yajima, A., Plegue, M., Bialko, M., Iida, T., Sano, K., Amenomori, M., Tsuda, T., Feters, M.D. (2014). Complementary and alternative medicine use by visitors to rural Japanese family medicine clinics: results from the international complementary and alternative medicine survey. *BMC Complementary and Alternative Medicine*, 14(360). Available from: <https://bmccomplementalternmed.biomedcentral.com/articles/10.1186/1472-6882-14-360> [Accessed 26 March 2018].

Singh, V., Raidoo, D.M., Harries, C.S. (2004). The prevalence, patterns of usage and people's attitudes towards complementary and alternative medicine (CAM) among the Indian Community in Chatsworth, South Africa. *BMC Bio Complementary and Alternative Medicine*, 4 (3). Available from: <http://www.biomedcentral.com/1472-6882/4/3> [Accessed 14 March 2016].

Siddiqui, M.J., Min, C.S., Verma, R.K., Jamshed, S.Q. (2014). Role of complementary and alternative medicine in generic care: a mini review. *Pharmacognosy Review*, 8(16), pp 81-87. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4127825/> [Accessed 03 December 2017].

Snyman, W. (2014). *A Survey to Determine Attitudes and Perceptions of Complementary and Alternative Medicine Users in Johannesburg Health Shops*, Unpublished Masters Dissertation, University of Johannesburg, South Africa, pp 3-46. Available from: <http://ujdigispace.uj.ac.za/bitstream/handle/10210/10885/Snyman%20W%202014.pdf?sequence=1> [Accessed 12 August 2016].

Sobiecki, J. (2014). The intersection of culture and science in South African traditional medicine. *Indo-Pacific Journal of Phenomenology*, 14(1): 1-11. Available from: <http://www.scielo.org.za/pdf/ipjp/v14n1/06.pdf> [Accessed 18 May 2016].

South African Association of Herbal Practitioners (SAAHP). (2011). Phytotherapy [Internet]. South African Association of Herbal Practitioners website. Available from: <http://herbalpractitionerssa.co.za/> [Accessed 03 December 2017].

Statistics South Africa. (2011). *Ekurhuleni*. Available from: http://www.statssa.gov.za/?page_id=1021&id=ekurhuleni-municipality [Accessed 18 May 2016].

Sun, Y., Zhao, Y., Xue, S.A., Chen, J. (2018). The theory development of traditional Chinese medicine constitution: a review. *Journal of Traditional Chinese Medicine Sciences*, 2018, pp 1 – 13. Available from: https://0-ac-els--cdn-com.ujlink.uj.ac.za/S2095754817301679/1-s2.0-S2095754817301679-main.pdf?_tid=f42f4e8c-63a2-4400-b7fb-3527d3208ef6&acdnt=1524393675_ca2d9e4b5475ff87d1bcacb3140a88dd [Accessed 22 April 2018].

Suzuki, N. (2004). Complementary and alternative medicine: a Japanese perspective. *Evidence-based Complementary and Alternative Medicine*, 1(2). Available from <http://europepmc.org/articles/pmc516460> [Accessed 26 March 2018].

Tibb. (2017). Our Philosophy [Internet]. Tibb website. Available from: <http://tibbherbals.com/tibbAbout.html> [Accessed 16 August 2017].

Transparency Market Research. (2016). Homeopathic Products Market - Global Industry Analysis, Size, Share, Growth, Trends and Forecast 2016 - 2024 [Internet]. Globe Newswire website. Available from: <https://globenewswire.com/news-release/2016/07/26/858831/0/en/Homeopathic-Products-Market-Demand-for-Homeopathic-Products-Poised-to-Surge-as-People-Become-more-Interested-in-Homeopathy-and-Herbal-Medicines-Global-Industry-Analysis-2016-2024.html> [Accessed 16 August 2017].

Ullman, D. (2011). Homeopathic Medicine: Europe's #1 Alternative for Doctors. *Huffpost Health Living*, 17 November. Available from: http://www.huffingtonpost.com/dana-ullman/homeopathic-medicine-euro_b_402490.html [Accessed 25 April 2016].

University of the Western Cape (UWC). (2013). Unani Tibb [Internet]. UWC website. Available from: <https://www.uwc.ac.za/Faculties/CHS/SoNM/Pages/Unani-Tibb.aspx> [Accessed 16 August 2017].

Van Staden, A.M. and Joubert, G. (2014). Interest in and willingness to use complementary, alternative and traditional medicine among academic and administrative university staff in Bloemfontein, South Africa. *African Journal of Traditional, Complementary and Alternative Medicines*, 11(5): 61-66. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4202519/> [Accessed 04 December 2017].

Van Staden, J. (2017). Statistical Analysis. Personal e-mail, 18 May 2016. (Statistician: STATKON. E-mail address: julianavs@uj.ac.za), 20 Chiselhurst Avenue, Auckland Park, 011 559 2703.

Ventola, C.L. (2010). Current issues regarding complementary and alternative medicine (CAM) in the United States. *Pharmacy & Therapeutics*, 35(8), pp 461 – 468. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2935644/> [Accessed 04 December 2017].

Wahner-Roedler, D.L., Lee, M.C., Chon, T.Y., Cha, S.S., Loehrer, L.L., Bauer, B.A. (2014). Physicians' attitudes toward complementary and alternative medicine and their knowledge of specific therapies: 8-year follow-up at an academic medical centre. *Complementary Therapies in Clinical Practice*, 20(1): 54-60. Available from: [http://www.ctcpjournal.com/article/S1744-3881\(13\)00071-6/fulltext](http://www.ctcpjournal.com/article/S1744-3881(13)00071-6/fulltext) [Accessed 18 May 2016].

Wieland, S.L.; Manheimer, E.; Berman, B.M. (2011). Development and classification of an operational definition of complementary and alternative medicine for the Cochrane Collaboration. *Alternative Therapies In Health And Medicine*, 17(2): 50-59. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3196853/> [Accessed 20 July 2017].

World Health Organization (WHO). (2005). *WHO Global Atlas of Traditional, Complementary and Alternative Medicine, Volume 2*, World Health Organization.

World Health Organization (WHO). (2016). Traditional Medicines: Definitions. Available from: <http://www.who.int/medicines/areas/traditional/definitions/en/index.html> [Accessed 24 March 2016].

World Naturopathic Federation (WNF). (2017). WNF white paper: naturopathic philosophies, principles and theories. Available from: http://worldnaturopathicfederation.org/wp-content/uploads/2015/12/WNF_White_Paper_June-2017.pdf [Accessed 16 August 2017].